

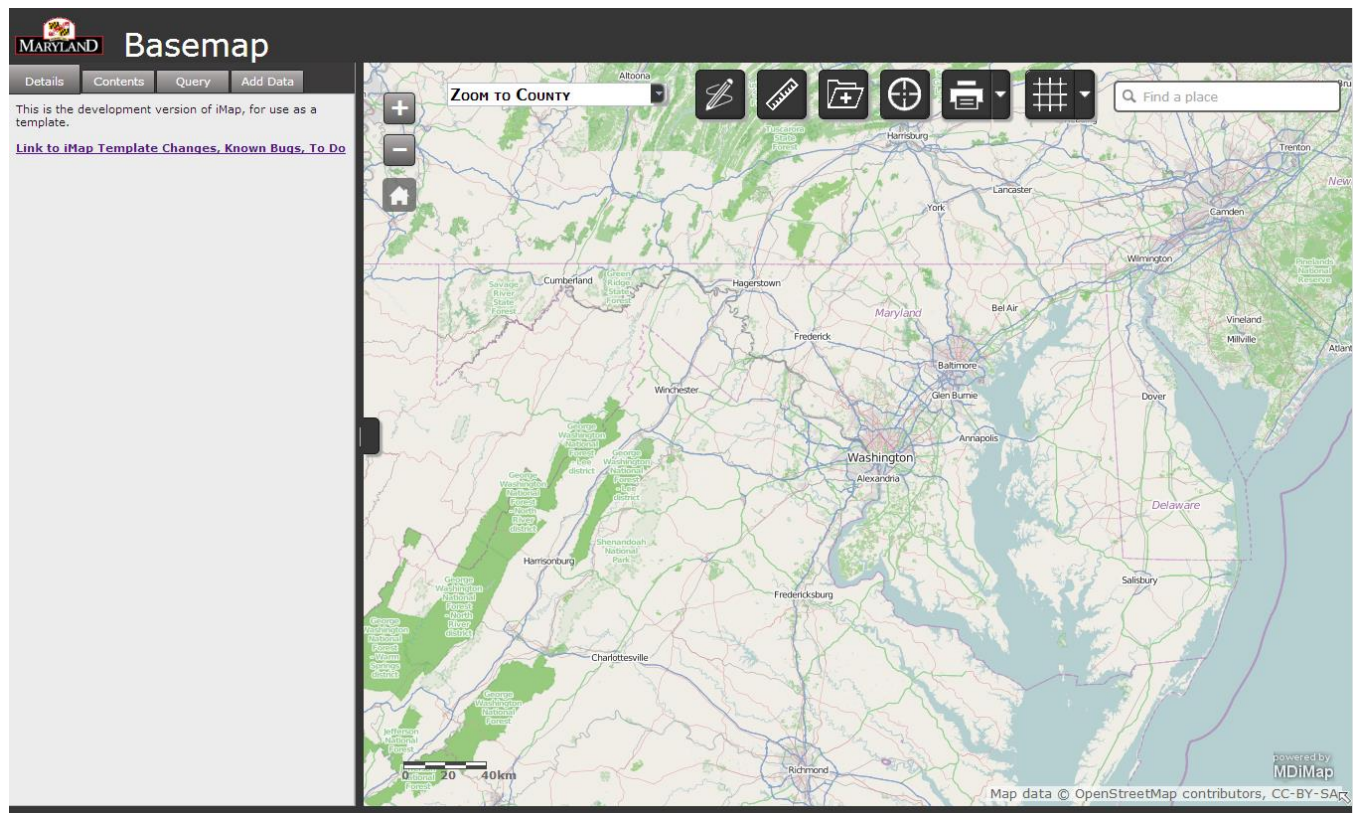
MD iMap Template – Explore the Template

The template should be viewable from where it was established on the IIS web server.

For instance, the default settings of IIS on a Windows 7 machine would be <http://localhost/imap> if you established the site correctly. If not, it might be found at <http://localhost/basicviewer/index.html>



Figure 1: The MD iMap template as seen freshly installed.



The main page (*Figure 1*) includes a basemap with no web maps attached. Maryland MD iMap REST services are available by default in the Add Data tab.

Zooming and Tool Buttons

Figure 2: Main Navigation Buttons



Zooming buttons (*Figure 2*) are similar to navigation tools available for Google or Bing Maps. The template also includes a “Home” button which will take the user back to the map’s initial extent.

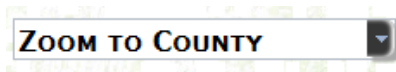
Additional tool buttons (Figure 3) are available, by default.

Note: The Print button is sometimes placed before or after the other tools. It has a known bug, especially in Internet Explorer. We hope to have a fix for this anomaly soon.)

Figure 3: Available MD iMap Template Tool Buttons



Figure 4: Zoom to County Tool Dropdown



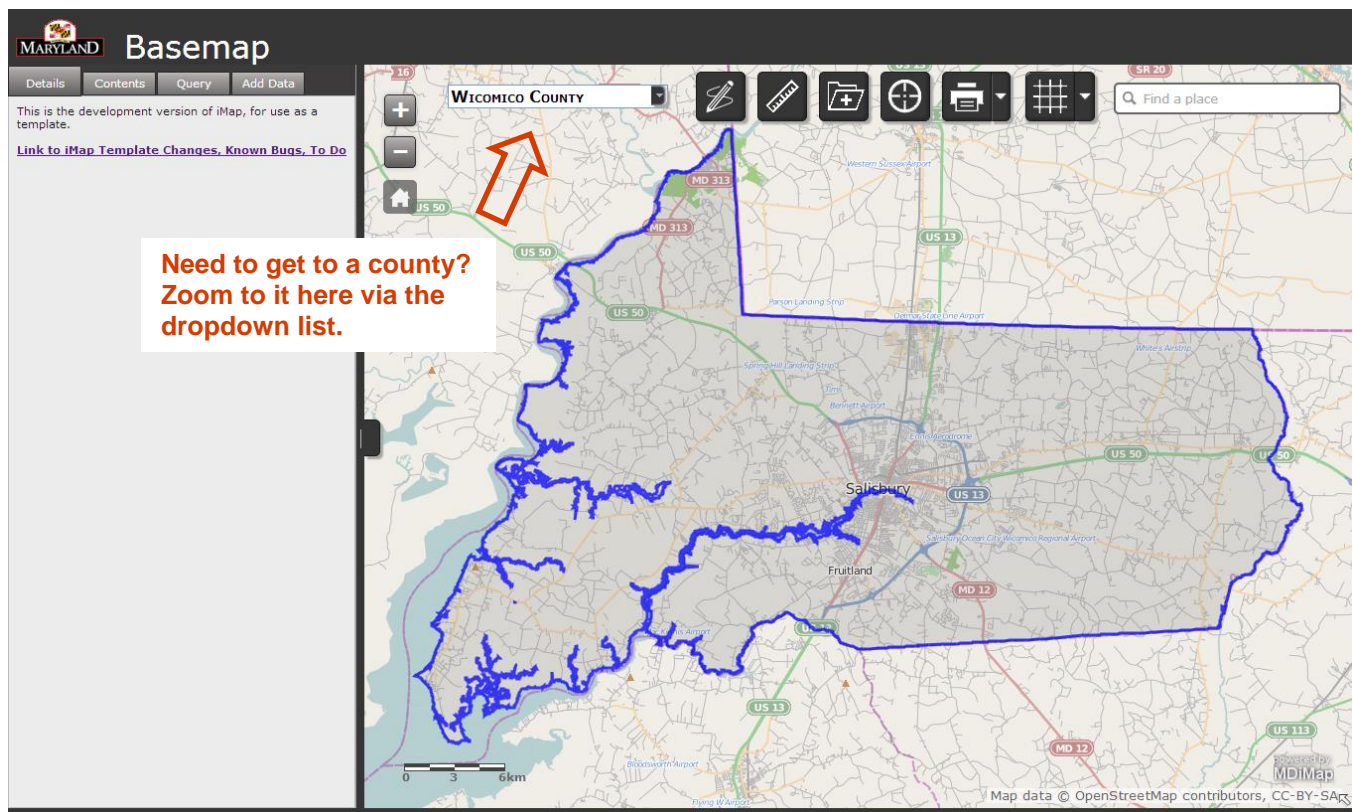
The “Zoom to County” tool (Figure 4) is similar to Esri’s zoom to feature widget, augmented as a hardcoded bookmark tool.

The tool pulls the bookmarks from a Maryland REST service featuring county layers.

Click on the dropdown arrow to view a list of the county names. Click on the county of choice and the map will zoom to and momentarily highlight the location of the county in a bright blue outline (Figure 5).

For reference, a County Boundaries layer is available under Boundaries on the Add Data tab.

Figure 5: A Zoom to County Result with County Highlight of Bright, Blue Outline



Basemap Selection Tool

Figure 6: Basemap Selection Tool Button

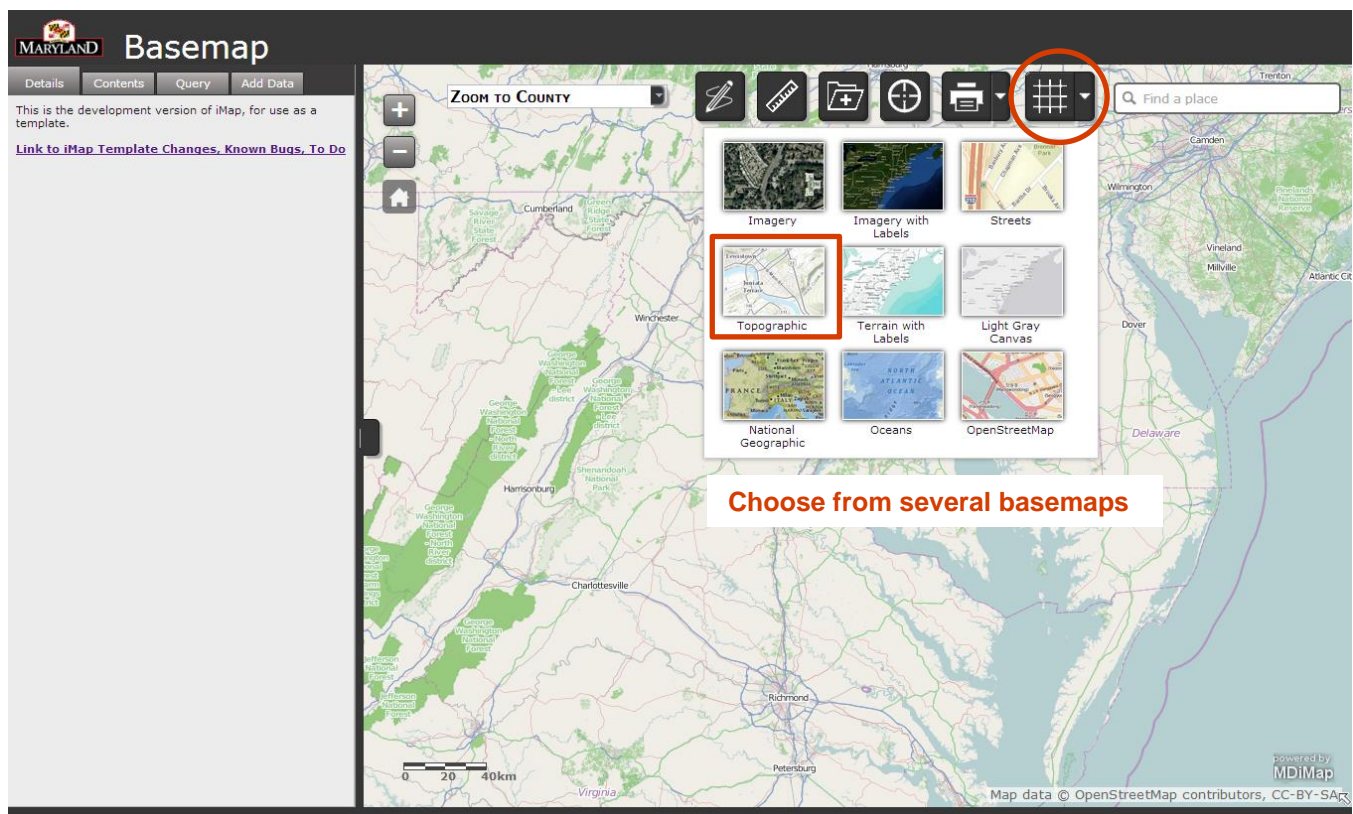


Similar to other interactive maps on the web, as user can select from a gallery of basemaps or background reference maps using the Basemap Selection Tool (Figure 6). The standard Esri basemaps are provided with the template (Figure 7).

An imported ArcGIS Online web map will have its own basemap loaded on an initial view. However, you can change the basemap with this tool.

Note: The template uses Open Street Map as the default basemap.

Figure 7: Available Gallery of Basemaps and Background Reference Maps



Drawing and Markup Tools

Figure 8: Drawing and Markup Tool Button



Notation on the map as points, lines and polygons (areas) can be added using the Drawing and Markup Tool.

Click the Drawing and Markup tool button (Figure 8) to open a floating pane with various options for adding features on the map. There are many options within the floating pane

(Figure 9). Draw Points adds multiple, different colored points, dotted lines can be straight or freehand and polygons can be drawn as multiple shapes, including arrows and triangles (Figure 10).

Drawings and markups can be cleared with the Clear All button located in the floating pane.

Note: Drawings and markups will remain even as a user closes this tool and engages another. The Drawing and Markup Tool can be reopened later to clear drawings and markups.

Figure 9: Options for drawing and marking up the map

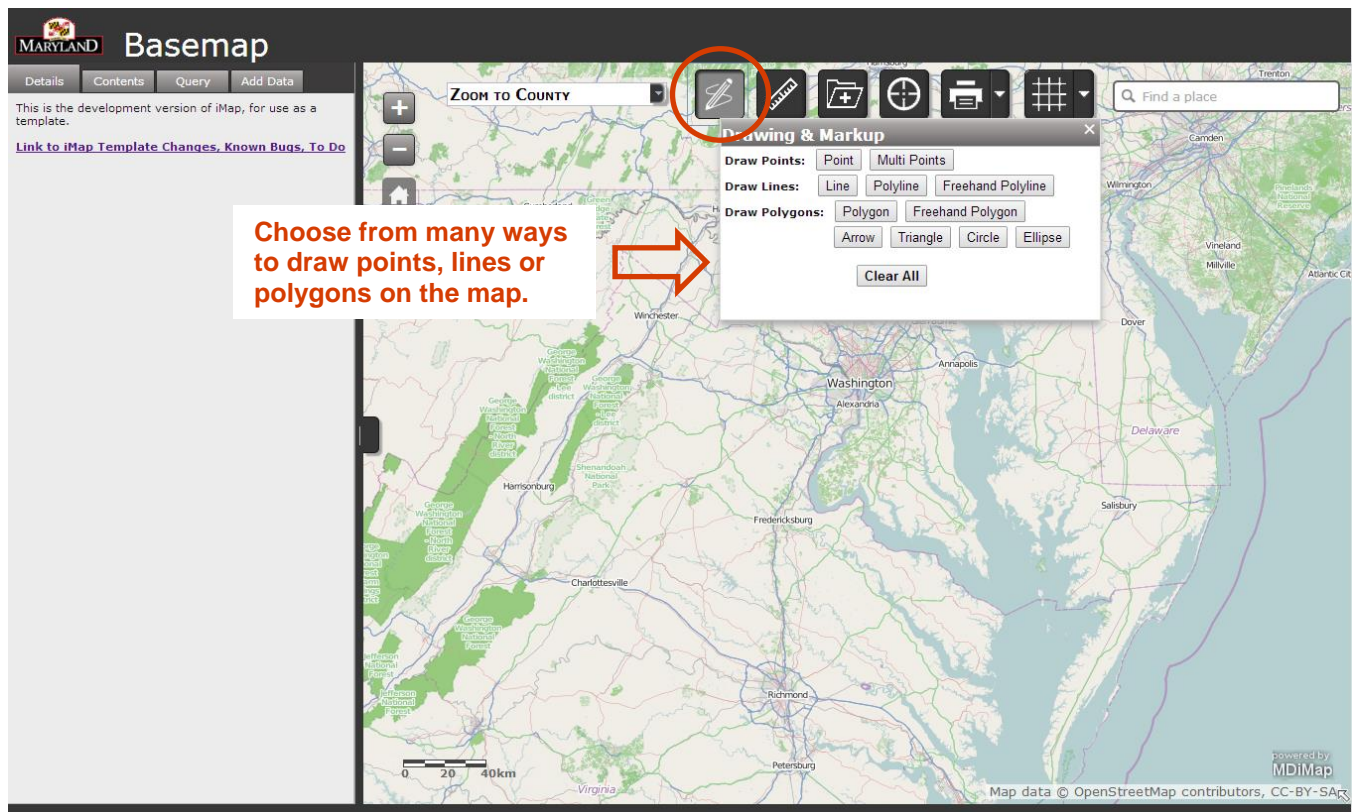
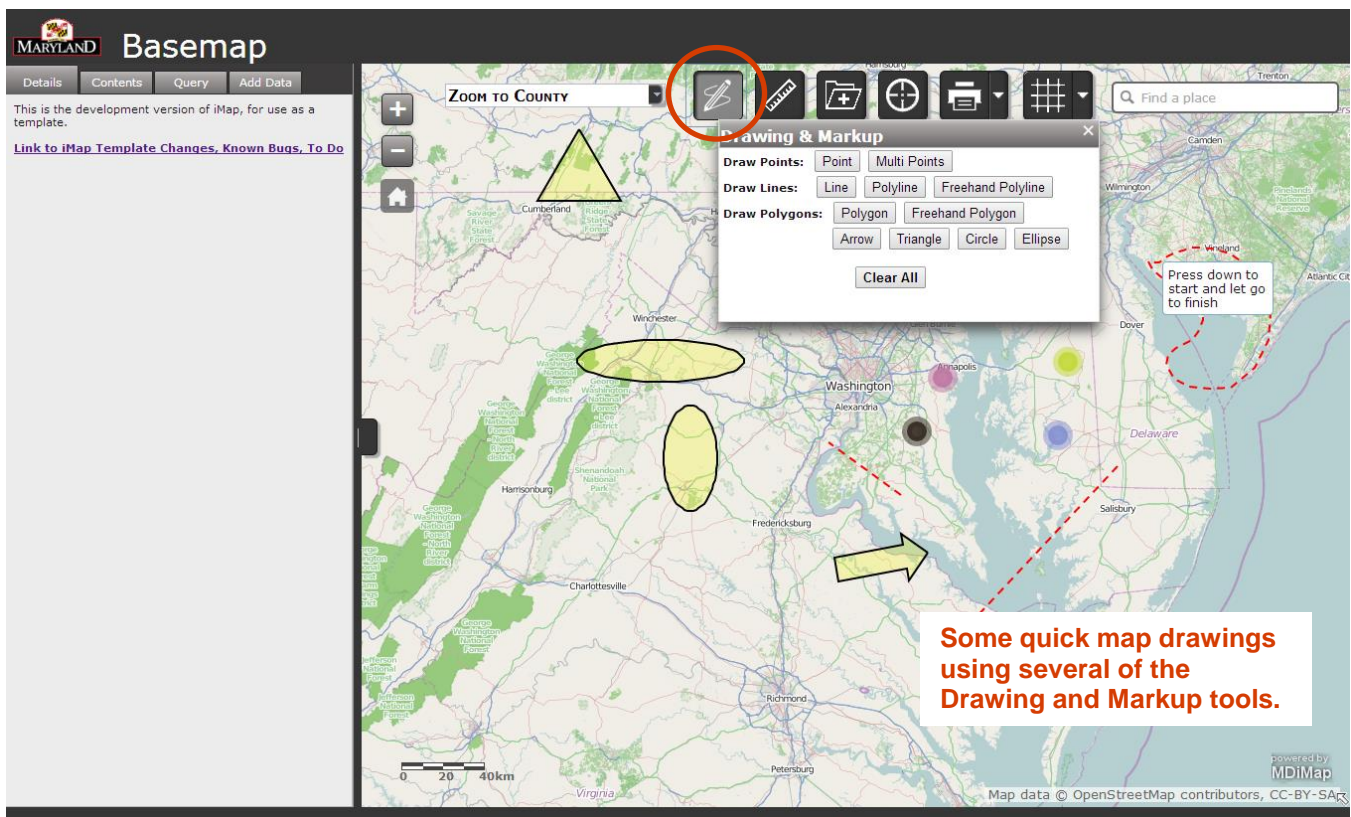


Figure 10: Example of user created markups



Measuring Tools

Figure 11: Measure Tool Button


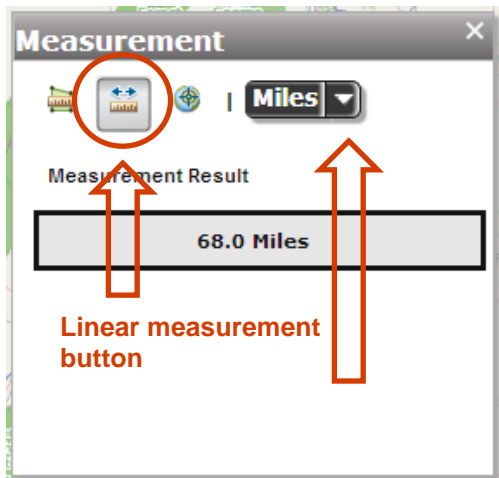
 Oftentimes it is helpful to ascertain general measurements from a map: point locations, how many miles it is from point to point or how many acres in a particular polygon. Click the measure tool button (*Figure 11*) to open a floating pane with three measure options (Area, Distance and Location) and the ability to acquire measurements in several corresponding units (*Figure 12*).

Figure 12: Measure tool floating pane

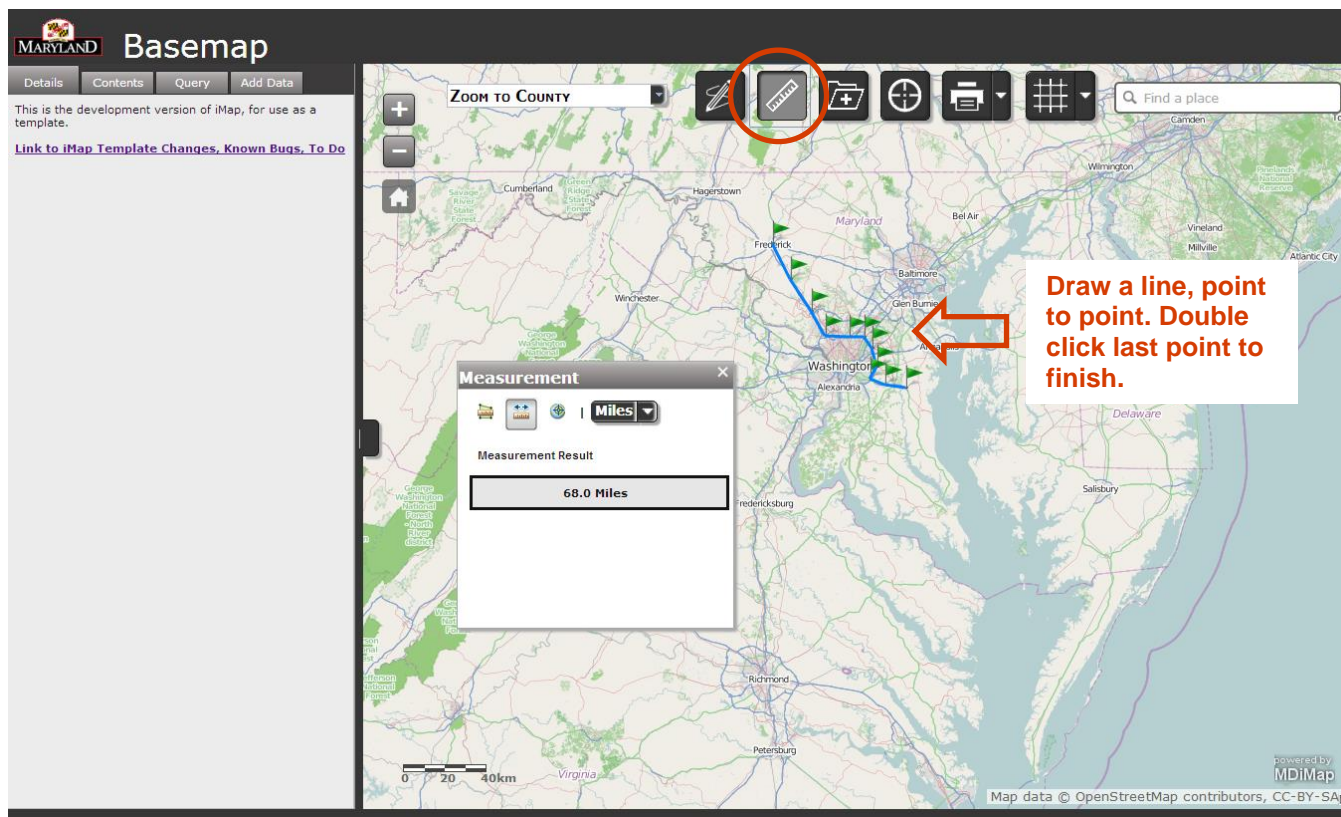


Click on the measure options to select it and click the dropdown arrow to select unit of measure. Options change depending on which measure option is selected.

The values of the measurement appear in the floating pane at the conclusion of the measure action (*Figure 13*).

Note: Resulting measurement values can be copied and pasted from the pane.

Figure 13: Options for measure tool



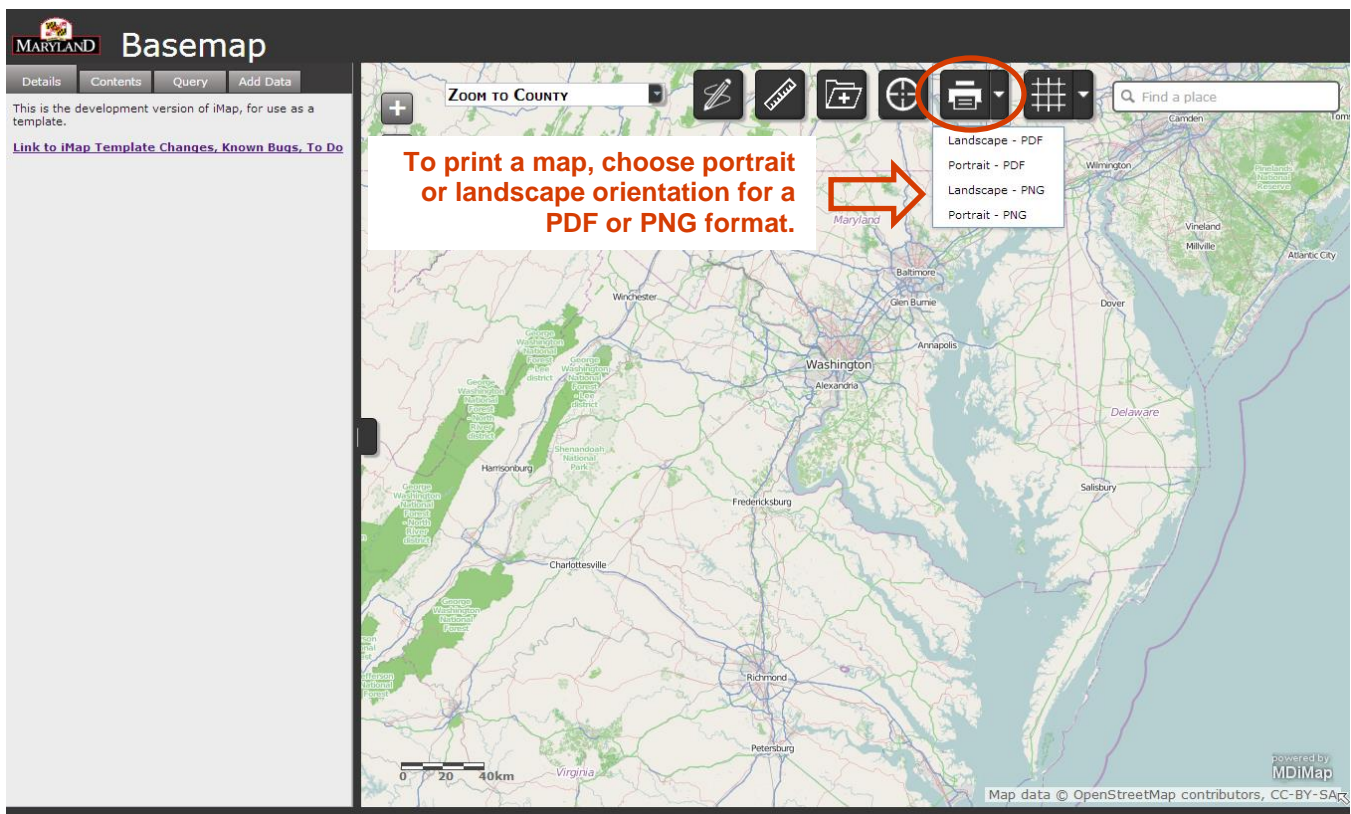
Print Tool

Figure 14: Print Tool Button



The print tool (Figure 14) allows a user to print a map as a .pdf or .png image in portrait or landscape orientation. Click on the dropdown arrow (Figure 15) to view a list of print options.

Figure 15: Options for print tool



Click the print tool button to print using the default setting of a landscape .pdf image. Once the default image is processed and available, the button will change to read “Printout” (Figure 16). Click “Printout” to view the prepared image (Figure 17). Once the “Printout” button is clicked the button will revert back to its original graphic and function.

Note: Large or complex maps may take extra time to produce.

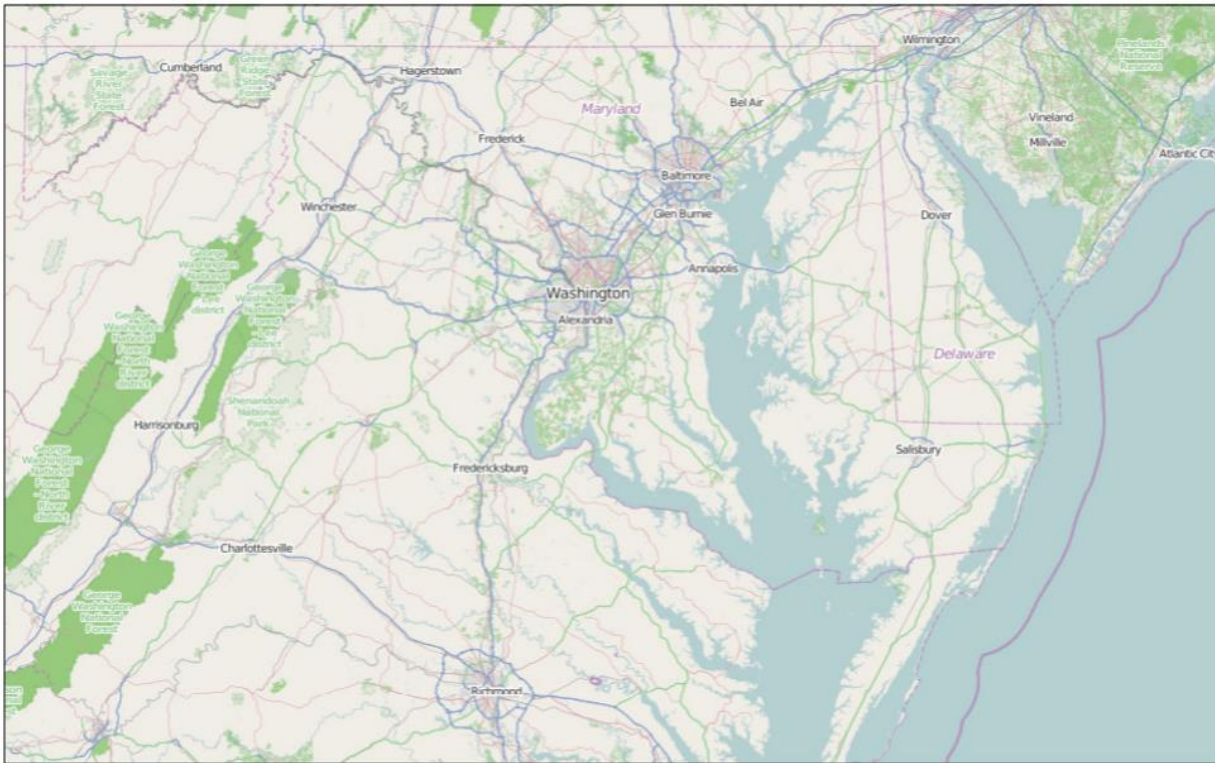
Figure 16: Print tool button changed to read “Printout”



Figure 17: Example of a prepared image

The print button will change to “Printout”. Click on this temporary button to get your copied map.

Basemap



May 22, 2014

1:2,311,162
0 20 40 80 mi
0 30 60 120 km

james.somerville

Location Tool

Figure 18: Location Tool Button

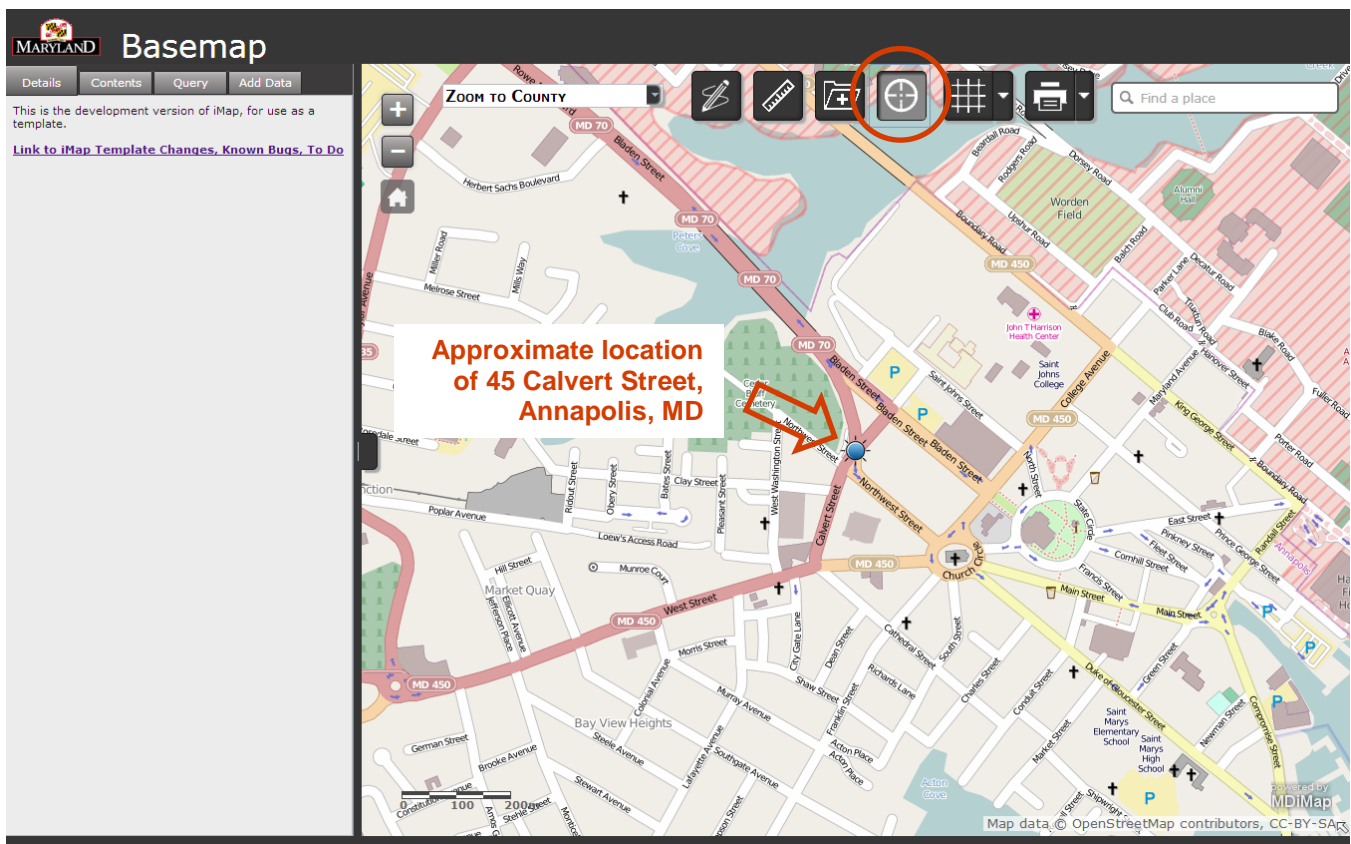


The location tool (*Figure 18*) provides the means for locating and zooming into a user's current location. Click the location tool button once to identify your current location. Click the button again to turn off the location tool function.

*For instance, if someone is at 45 Calvert Street in Annapolis, MD and clicked on this button, the map would zoom to that area and place a marker on the map (*Figure 19*).*

Note: You may get a notice from the web browser to allow access for this interaction. A system or browser generated pop-up asking for permission to continue or "share location" may appear.

Figure 19: Results from the Location Tool



Data Interoperability Tool

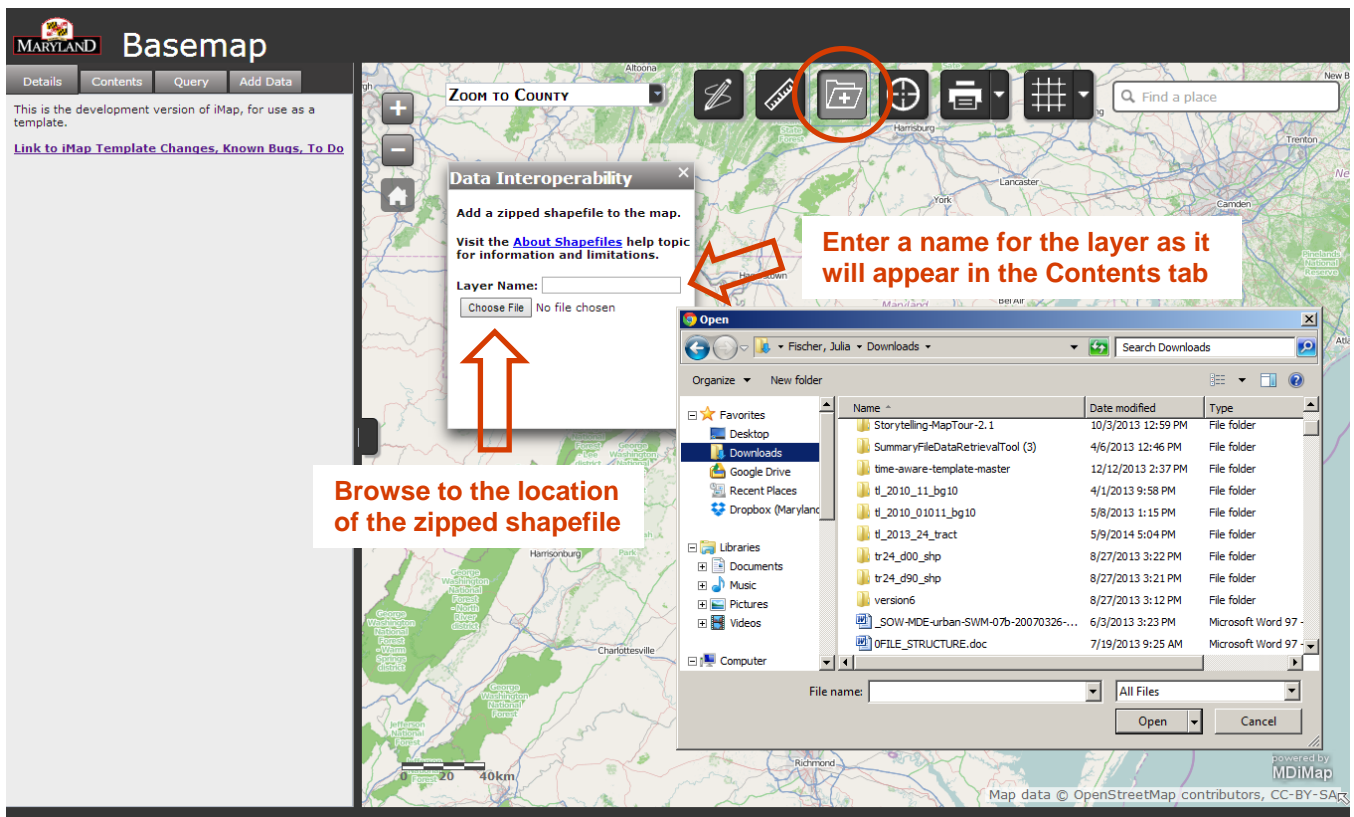
Figure 20: Data Interoperability Tool Button



One of the unique features of the MD iMap template is the ability to add shapefile data to the map from a local machine. Click on the data interoperability tool button (Figure 20) to open a floating pane which provides a text box to enter a name for the layer being added and provides access to browse to the location of the shapefile (Figure 21).

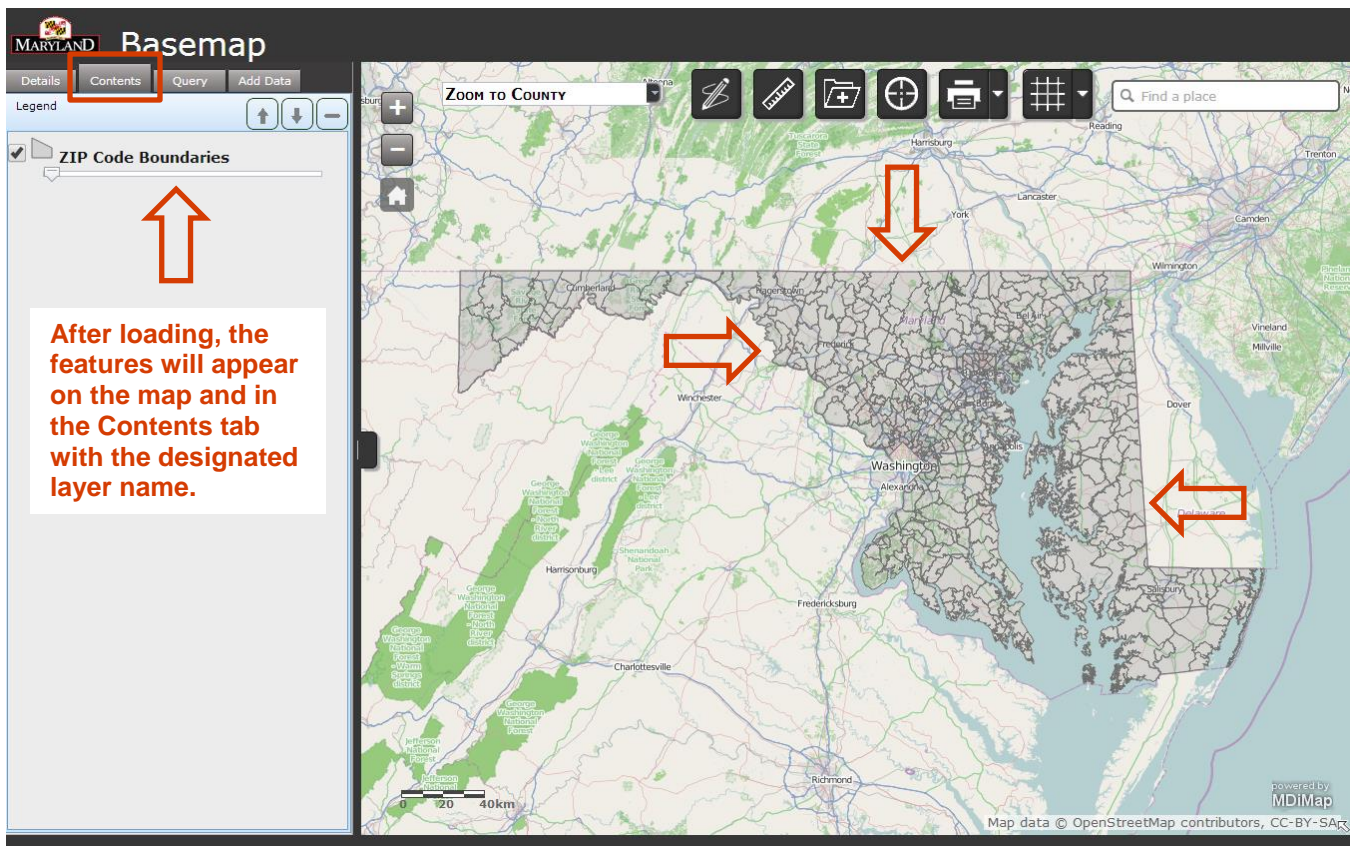
Note: The shapefile must be in an archived or “zipped” folder.

Figure 21: Data Interoperability Tool Floating Pane



For instance, a ZIP code boundary shapefile is selected and the Layer Name is entered as “ZIP Code Boundaries”. After browsing, selecting and clicking Open, the MD iMap template will add the data to the map and it will be accessible from the Contents tab (Figure 22).

Figure 22: Data Interoperability Tool Results



Note: The Data Interoperability floating pane will provide indication that the file is loading and provide a warning if the number of features exceeds the maximum number of records allowed (1,000 limit).

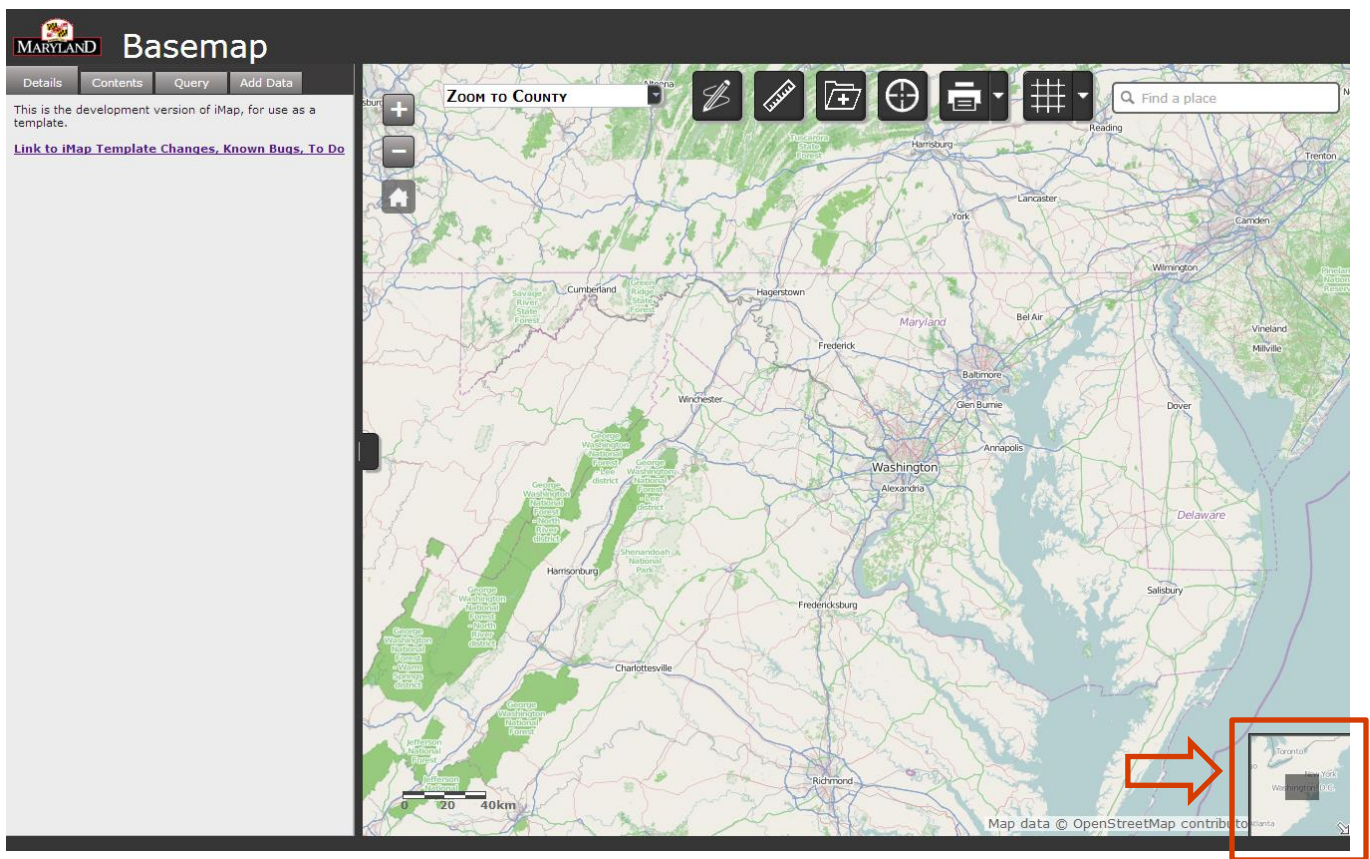
Overview Map

Figure 23: Overview Map



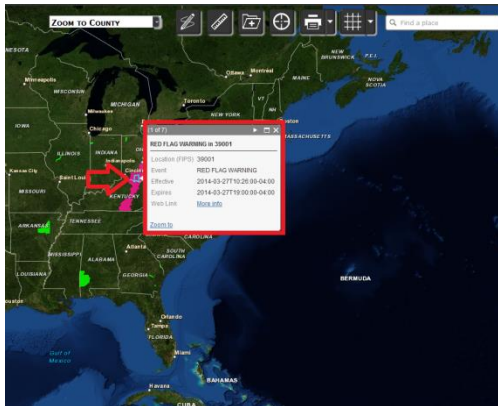
In the lower, right corner of the map there is a little arrow (Figure 23). Click on the arrow to display the overview map, which provides where the current location of the main map is in relation to smaller scale or zoomed out features, such as a metropolitan area in relation to a county or a county to the state or other states (Figure 24).

Figure 24: Overview Map Expanded in the Lower, Right Corner of the Main Map



Feature Information

Figure 25: Feature Information



Oftentimes, mapping applications will have an “I” or information tool to click a map feature and identify its attributes. The MD iMap template does not have a separate tool, but instead integrates the functionality automatically. Click on any map feature to display a pop-up with the feature’s attribute information (*Figure 25*).

Note: The pop-up functionality must be enabled in the integrated AGOL web map.

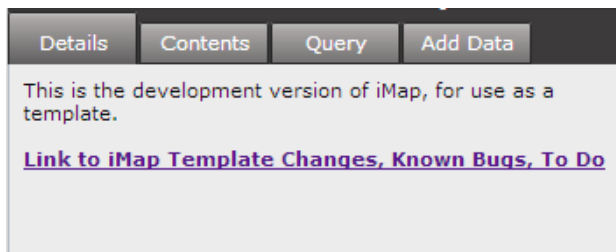
For example, the USA Weather Warnings web map (*Figure 25*) displays a result after a user clicks on a feature. Note that the information pop-up may have more than one set of results depending on how many active layers are available. The pop-up information will display for the highlighted feature (*Figure 26*).

Figure 26: Pop-up Information Displayed for the Highlighted Feature



Table of Contents Tabs

Figure 27: MD iMap Template Table of Contents Tabs



To the left of the map is the Table of Contents which includes four tabs: Details, Contents, Query and Add Data (*Figure 27*).

For purposes of the next section, let's add an ArcGIS Online web map. The NOAA/National Weather Service and USGS Natural Hazards Support System (NHSS) has a web map with an id of "a03a49082c1c4e869c6349d9cdccf2a3". To access this web map from the MD iMap template, append the web map id to the template's location on the local server.

For example, it would look similar to:

`http://<mywebserver.com>/<basicviewer>/imap/index.html?webmap=a03a49082c1c4e869c6349d9cdccf2a3`

It is important that "?webmap=" be affixed to "index.html" before adding the web map id (without the quotes).

Details Tab

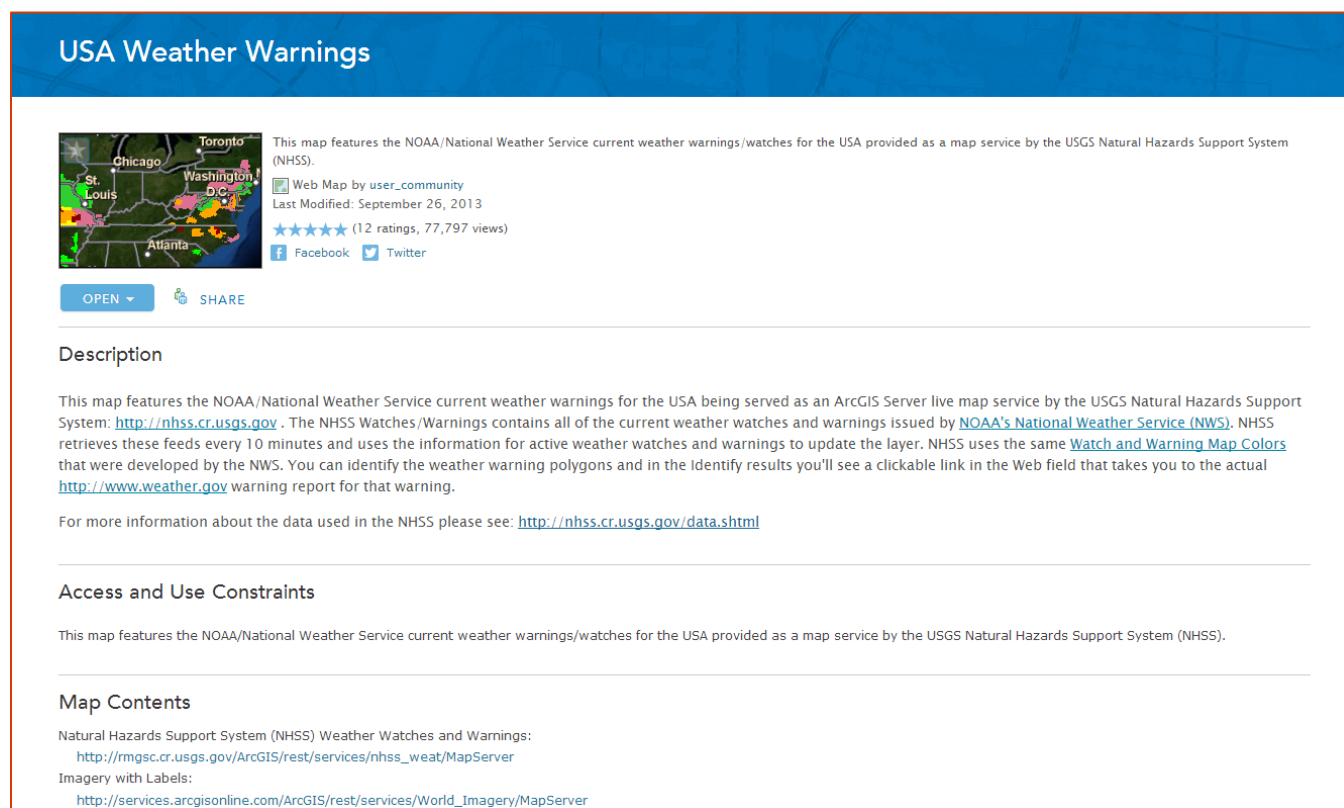
With the newly added web map in place, both the map and the details section have changed (*Figure 28*).

Figure 28: MD iMap Template Table of Contents Details Tab With Information Pulled from Original Web Map on ArcGIS.com



The Details tab is now filled with information about the map. This exact information is pulled from what NOAA published in the description section of their ArcGIS Online web map on ArcGIS.com (Figure 29). Additionally, the title is pulled from the description section and the basemap matches the basemap selected for the web map.

Figure 29: Description Section of ArcGIS Web Map as it Appears on ArcGIS.com



Note: If a web map publisher decided not to include a description of the map, no description would appear in the MD iMap template.

Contents Tab

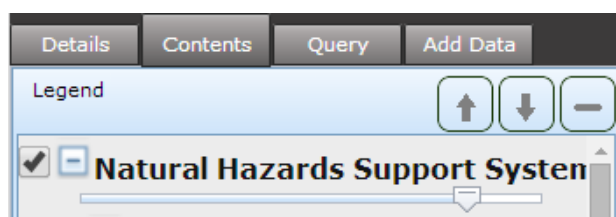
Initially, the Contents tab of the MD iMap Template is blank, since there are no associated layers or maps yet. Only a basemap is provided for reference. Using the same NOAA example, the Contents tab is now populated with layers (*Figure 30*).

Figure 30: Contents Tab and Main Map Content of NOAA Web Map



The layers appear as they were designed for the web map in ArcGIS.com, including color scheme, cartographic symbols, transparency levels, naming, layers set for initial display, etc.

Figure 31: Contents Tab Up, Down and Minus Buttons



At the top of the Contents tab are up and down arrow buttons along with a minus sign button (*Figure 31*). This allows for the ability to rearrange the display levels of the content shown

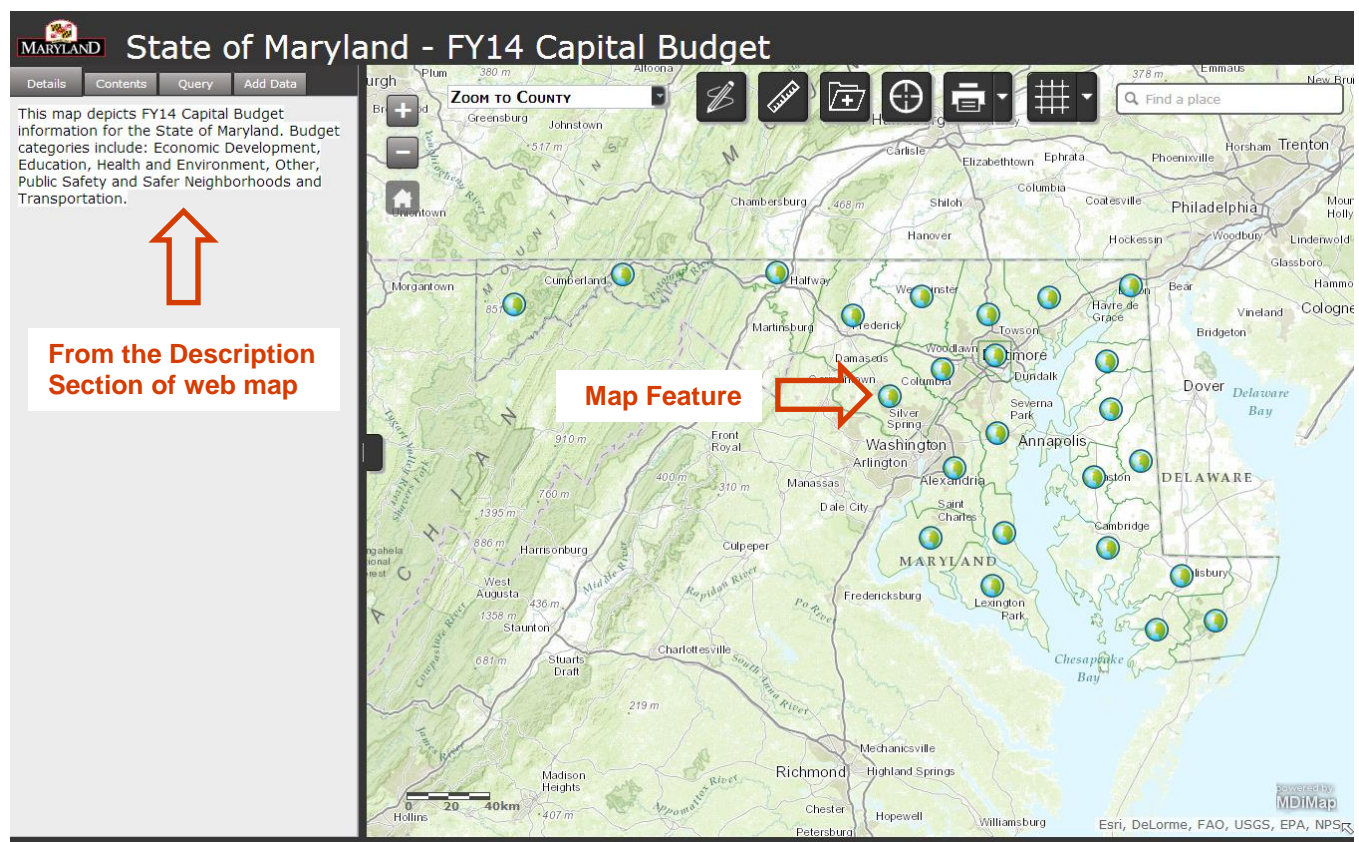
in the main map. Meaning layers can be moved up or down to either display on top of or below other layers. The minus sign allows for the layer to be removed from the map. This is not a

permanent delete feature. It only makes the layer no longer available within the active mapping application section.

For purposes of the next section, let's add a different ArcGIS Online web map. The State of Maryland publishes a fiscal year capital budget map each year using the MD iMap Template. The web map is dfbdfa29268f4d36a5991f29441c6b63.

Note: When the new web map id is applied, the title changes, the content of the Details tab changes and the map features are updated based on entries to the web map id (Figure 32).

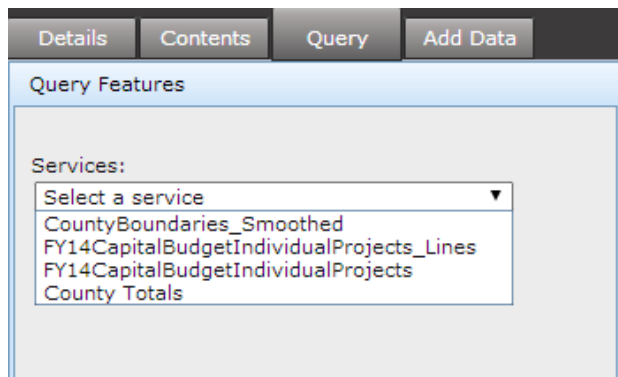
Figure 32: Sample Map of the Maryland FY14 Capital Budget



Query Tab

The Query tab is actually a query tool set for use with the web map. Once a map is attached either via the URL or specifically embedded in the app.js or webmap.js files, the ability to query layers becomes available. Queries can be conducted either spatially (e.g. – select via a polygon) or by attribute (e.g. – select via attributes within a table). The easiest query is a spatial select query.

Figure 33: Dropdown List for Query of Web Map Services



The screenshot shows a software interface with a top navigation bar containing four tabs: 'Details', 'Contents', 'Query', and 'Add Data'. The 'Query' tab is currently selected. Below the tabs is a panel titled 'Query Features'. Inside this panel, there is a section labeled 'Services:' followed by a dropdown menu. The dropdown menu is open, displaying a list of service names: 'Select a service' (the selected item), 'CountyBoundaries_Smoothed', 'FY14CapitalBudgetIndividualProjects_Lines', 'FY14CapitalBudgetIndividualProjects', and 'County Totals'.

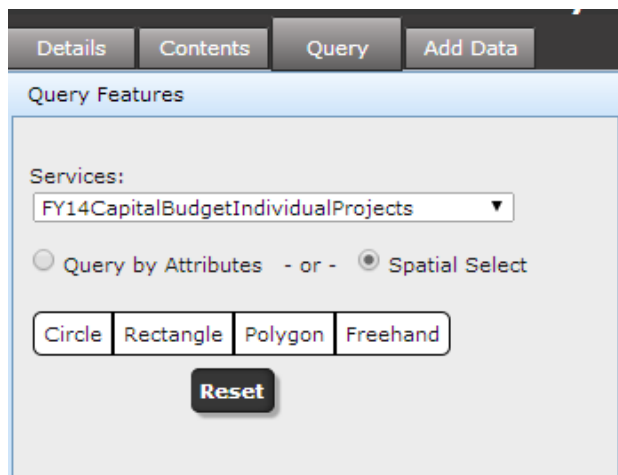
First, select a service that is available from the dropdown list (Figure 33).

Note: If the service is made up of multiple layers, another dropdown list will appear with all the layers to choose from.

Next, choose either “Query by Attributes” or “Spatial Select” (Figure 34). Choosing “Spatial Select” will enable the options of using a circle, rectangle, polygon or freehand polygon.

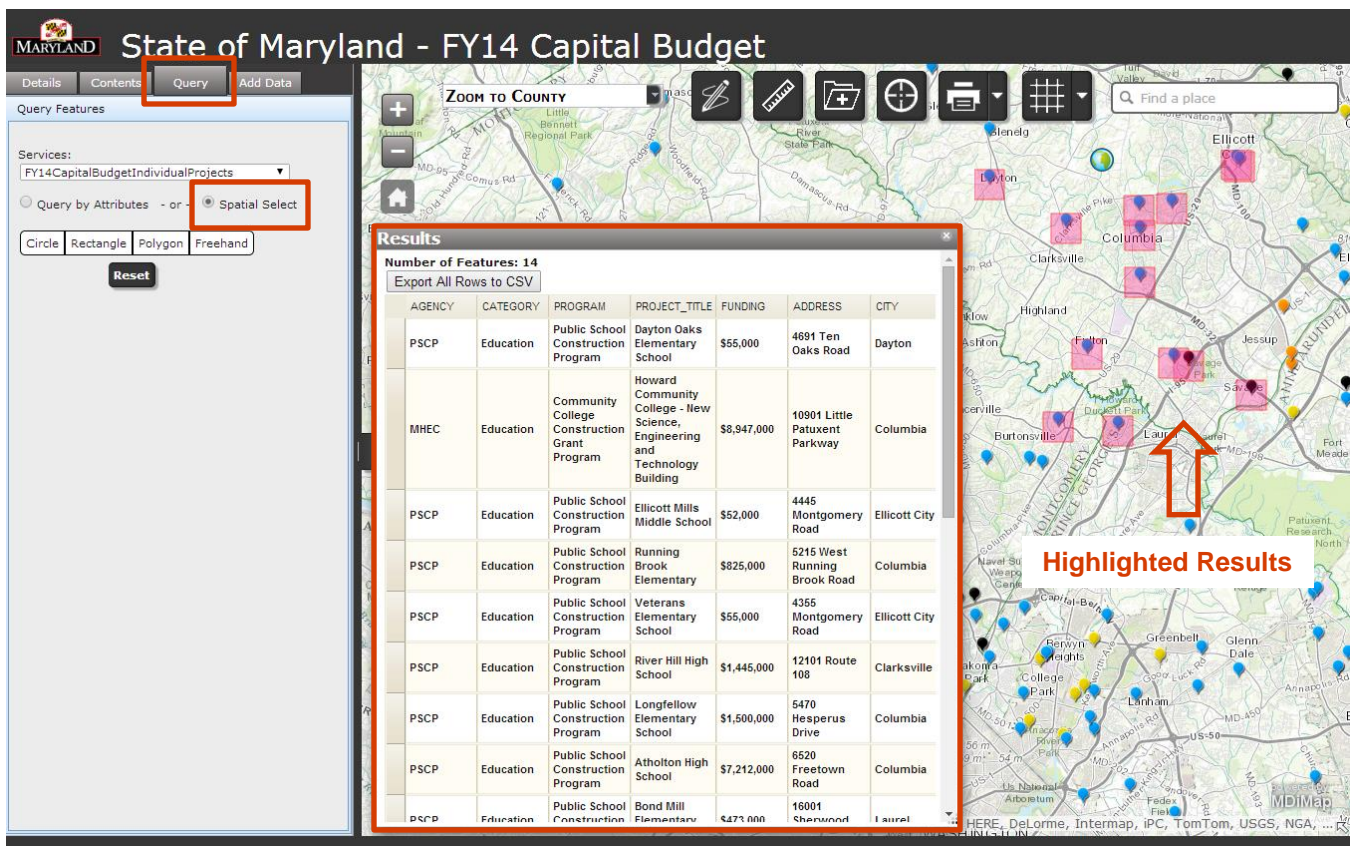
Click on one of the choices and draw around the desired features on the map. The selected features are highlighted on the map and a floating pane appears with attribute data of each selected feature (Figure 35).

Figure 34: Selected Service and Query Option “Spatial Select”



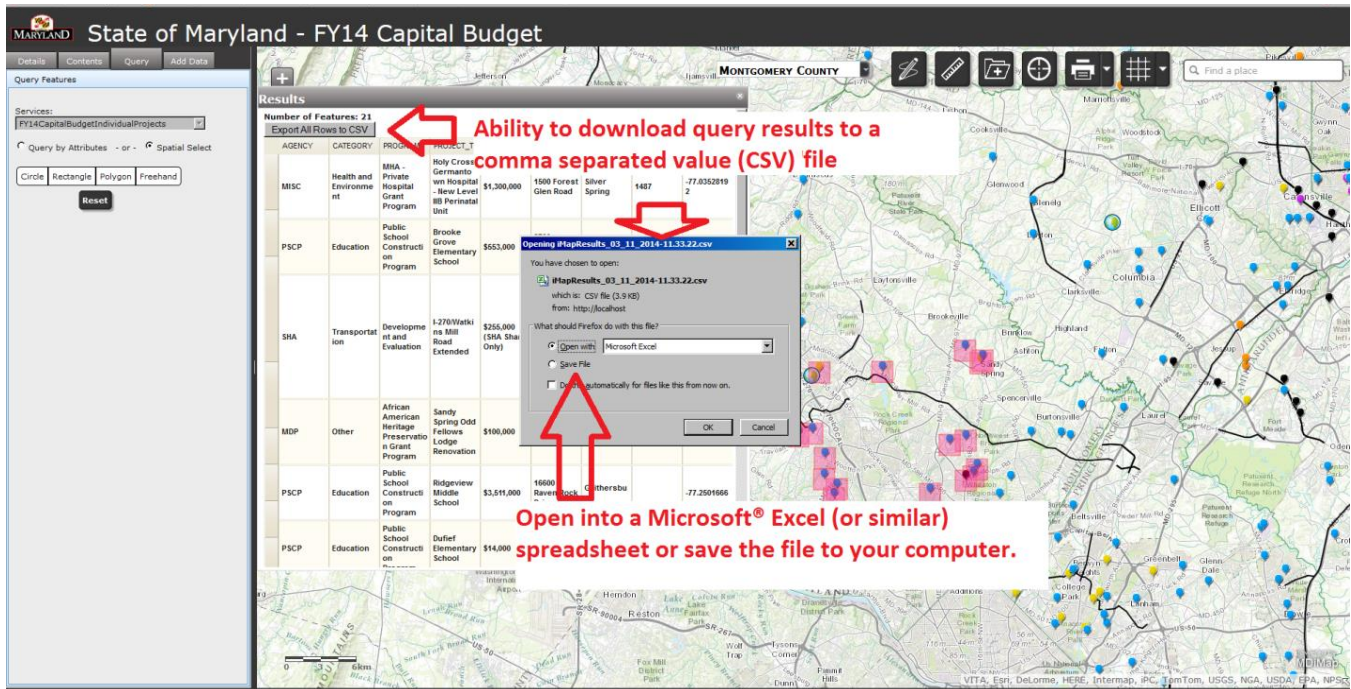
This screenshot shows the same 'Query Features' panel as Figure 33, but with different settings. The 'Services:' dropdown menu now has 'FY14CapitalBudgetIndividualProjects' selected. Below the dropdown, there are two radio button options: 'Query by Attributes' (which is unselected) and 'Spatial Select' (which is selected). Under the 'Spatial Select' option, there are four buttons: 'Circle', 'Rectangle', 'Polygon', and 'Freehand'. At the bottom of the panel is a 'Reset' button.

Figure 35: Selection Results Highlighted in the Map and Floating Pane Displaying Attribute Data Table



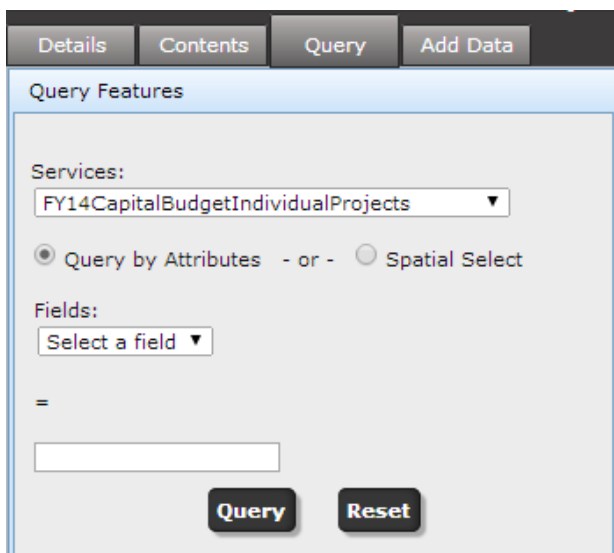
There are many options to view the selection results. The floating pane is expandable. The columns can also be sorted alphabetically using small arrows to the right of each column name. The floating pane also has a download the selected data function. Click the “Export All Rows to CSV” to save the attribute data table to a file that can be opened in Microsoft Excel (or similar) software (Figure 36).

Figure 36: Download the Selected Results to a CSV File



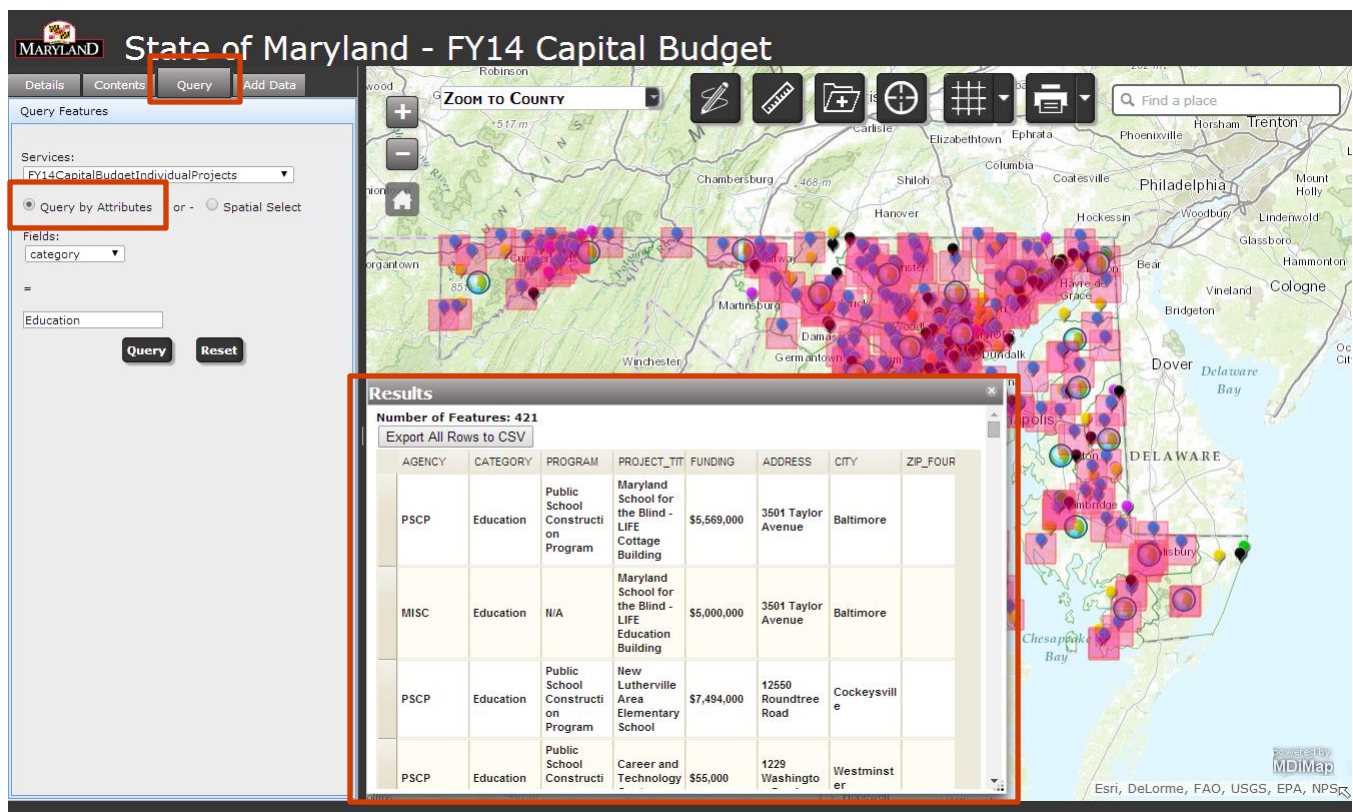
The other select option is “Query by Attributes” (Figure 37). Choosing “Query by Attributes” will enable a second dropdown list which is used to select the attribute field to query. Once the field has been selected, a unique entry is provided in the text box.

Figure 37: Selected Service and Query Option “Query by Attributes”



For instance, if you want to find results on all Education Programs supported by the capital budget, you would select “Category” and type “Education” in the text box (Figure 38).

Figure 38: Selection Results Highlighted in the Map and Floating Pane Displaying Attribute Data Table



Note: At this time, the Query by Attribute function requires an exact match of the unique entry in the text box; otherwise the function will not work. Clicking on features within the main map will often provide information on options to make an exact match. We are working to make the Query by Attribute entry more flexible in a future release of the template.

The MD iMap template is a flexible, configurable JavaScript-based application which also leverages the functionality and integration of Esri's ArcGIS Online. The GIO Office is committed to supporting and improving the template into the future.

If you have any questions or would like details about how to implement the template for your applications, please feel free to contact the GIO Office at gio.doit@maryland.gov.